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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|--------------------------|---------------------|------------------|
| 10/581,376 | 01/31/2007 | Christopher Martin Bunce | 7492-104 | 3703 |
| 62836 | 7590 | 07/19/2010 | | |
| BERLINER & ASSOCIATES | | | EXAMINER | |
| 555 WEST FIFTH STREET | | | KOSAR, AARON J | |
| 31ST FLOOR | | | | |
| LOS ANGELES, CA 90013 | | | ART UNIT | PAPER NUMBER |
| | | | 1651 | |
| | | | | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 07/19/2010 | PAPER |
| | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/581,376 | Applicant(s) BUNCE, CHRISTOPHER MARTIN |
| | Examiner AARON J. KOSAR | Art Unit 1651 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 April 2010.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2 and 5-26 is/are pending in the application.
- 4a) Of the above claim(s) 9-26 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2 and 5-8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1668)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Response to Amendment

Applicant's amendment and argument filed January 12, 2010 in response to the non-final rejection and April 26, 2010 in response to the communication of April 14, 2010, are acknowledged and have been fully considered. Any rejection and/or objection of record not specifically addressed is herein withdrawn.

Applicant has amended the claims by canceling claims 3 and 4. Claims 9-26 stand as withdrawn for the reasons of record. Claims 1, 2, and 5-8 are pending and have been examined on the merits.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 5-8 stand as rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Willems et al (Exper. Hematol. 2002, 30, p.640-648.).

Willem's appears to anticipate the claims by teaching NM23 (NM 23 protein), bone marrow cells (cells from bone marrow) and normal human hematopoietic progenitor cells (undifferentiated cells, hematopoietic cells, progenitor or stem cells, cells from blood). Willem's further teaches *in vitro* addition of NM23 to the cells, wherein NM23 inhibits cell differentiation (maintains undifferentiated cells).

Although Willem's does not expressly recite an intended use of the NM23 as a survival factor or to prevent differentiation/maturation, or of the cultured cells for a (non)therapeutic use Willem's still appears to anticipate the claims, because Willem's teaches the same cells (stem/hematopoietic cells) and the same protein (NM23) as instantly claimed, and culturing (*in vitro* assaying for differentiation and the inhibition thereof). Thus the method of Willem's appears to be identical to the method as instantly claimed wherein practicing the method of Willem's would appear to inherently provide the intended functions/uses.

In the alternative, even if the claimed method of culturing such cells in the presence of NM23 is not identical to the referenced method with regard to some unidentified characteristics, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced cells produced by such a method are likely to inherently possess the same characteristics of the claimed cells produced thereby particularly in view of the similar characteristics which they have been shown to share. Thus, the claimed culturing method would have been obvious to those of ordinary skill in the art within the meaning of USC 103.

Accordingly, the claimed invention as a whole was at least *prima facie* obvious, if not anticipated by the reference, especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Response to Arguments

Applicant has argued that Willem et al teaches a lower cell density than the instant invention, a richer expansion cocktail of cytokines. Applicant has also argued that Willem teaches NM23 doses provided did not effect overall cell expansion or survival or were variable in the effect, in contrast to the instant invention showing marked increase in cell number in response to NM23-H1 in the presence of IL3 and SCF. Applicant has further argued that

Applicants' arguments as they pertain to the art rejections above have been carefully considered but are not deemed to be persuasive of error in the rejections.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a cell density, concentration, or conditions (time, a fully-defined culture medium); precluding additional components, cytokines, or cells; an NM23-H1 protein; and expansion or survival or degree thereof; an increase in cell number or a cell-expansion/survival effect) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

No claims are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON J. KOSAR whose telephone number is (571)270-3054. The examiner can normally be reached on Monday-Thursday, 7:30AM-5:00PM, ALT. Friday,EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron J Kosar/
Examiner, Art Unit 1651

/Christopher R. Tate/
Primary Examiner, Art Unit 1655